Rocky Mountain

National Park
National Park Service

Student's Guide

Rocky Mountain National Park covers 416 square miles in north-central Colorado. The park has been designated by the United Nations "Man and Biosphere" program as an International Biosphere Reserve. This means that the park is recognized as being devoted to conservation of nature and genetic material. The park is also a valuable site for cultural research. Following is an overview of the park's history, geology, wildlife, and life zones.

History

Paleo-Indians reached the vicinity of Rocky Mountain National Park between 10,000 and 20,000 years ago. Objects made of stone, bone, and clay uncovered and studied by archaeologists are found in and near the park. These objects teach about the lives of the early humans. By the 18th Century trappers, miners, homesteaders, and tourists shared the area with Ute, Arapahoe, and other native Americans.

Rocky Mountain National Park was formally established on January 26, 1915 by an act of Congress. Even before the park was established, work began in 1913 to build a road over the Continental Divide to connect the east and west sides of the area.

The creation of Rocky Mountain National Park is closely linked to the work of Enos A. Mills, a miner and naturalist. His enthusiastic writings and lectures helped convince Congress to preserve the area for the protection of wildlife and the enjoyment of visitors.

Geology

In the Rocky Mountains, deeply buried sea sediments were subjected to intense pressure and heat about 1.7 billion years ago when crustal plates moved, resulting in the creation of metamorphic rocks called schist and gneiss. About 70 million years ago an era of uplift began, thrusting upward giant blocks of ancient crystalline and younger sedimentary rocks. Erosion at the same time carved the mountains and created streams and rivers. About 25 million years ago, volcanic deposits of younger igneous rock were deposited on top of the older formations. Faulting and upwarping continued to lift the Rocky Mountains. By two million years ago the present heights of the mountains had been attained.

While uplifts and volcanoes provided the major geologic building blocks of the park, glaciers sculpted the landscapes seen in the park today. During the ice age that began about two million years ago, there were at least four periods of glaciation in the Rocky Mountain area. Deep snow collected in the upper reaches of the mountains and compacted into ice which then flowed as glaciers into the lower valleys. When the ice melted, it left debris scraped from the mountainsides above. Debris deposits along the sides of the melting glaciers are known as lateral moraines. The debris at the front of the glaciers are called terminal moraines.

Today, Precambrian granites and metamorphic rocks predominate the central and eastern areas of the park. Some remnants of sedimentary rock are found along the west boundary of the park in the Never Summer Mountains.

Wildlife

All wildlife, which includes animals and plants, is protected in Rocky Mountain National Park. This gives visitors opportunities to observe plants and animals in their natural relationships. **No hunting, harassing, feeding, collecting, touching, or any other disturbance of wildlife is permitted**. Animal movements depend on the season of the year, time of day, weather and food resources. On the back page are descriptions of wildlife found in the park.

Bighorn Sheep

Bighorn sheep mostly stay high in the mountains where the rugged and steep terrain helps to protect them from predators. Their need for minerals, however, draws them to areas where they are not as well protected. Two of these areas are Sheep Lakes in Horseshoe Park and the Crater near Milner Pass. Sheep visit these areas infrequently and only during the daytime. During winter months when food is difficult to find the sheep may come to lower areas where food is more abundant. Bighorn sheep are easily stressed by human harassment, they can get sick and even die as a result.

Black Bear

The bears in Rocky Mountain National Park tend to be small in size and number, probably due to the terrain and lack of food. People are seeing black bears more frequently in the park, especially along roadsides and near campgrounds. Bears are drawn to people when they think they can obtain food.

Coyotes

Coyotes hunt small game such as rodents. Unfortunately they are also seen along roadsides where they sometimes are fed by park visitors. Many evenings the coyotes can be heard calling, a beautiful, eerie sound. In RockyMountain National Park, the abundance of food has allowed the coyotes to grow quite large, leading some people to think that they are wolves; there are no wolves in the park.

Elk

North American elk can be seen throughout the park; where depends on the season of the year. In the fall they gather in open parks (meadows) for the rut or mating season. For the winter, the elk "yard up" in the large parks (meadows) at lower elevations or even on the golf courses of neighboring towns. When the grasses green up in spring, the elk again move to the lower meadows. Calves are born in late spring. Summer temperatures cause the elk to move to the cooler tundra. Elk are called "grazers" because they eat grasses; when food is in short supply they will also eat shrubs and tree bark.

Mule Deer

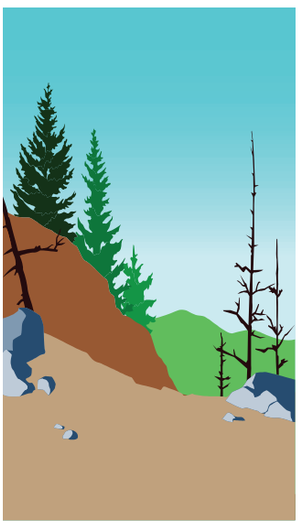
In Rocky Mountain National Park mule deer numbers are between 500 and 600. Mule deer are "browsers," eating woody vegetation as well as grasses. They range from the lowest to the highest elevations in the park. The mule deer are easily distinguished from elk and other deer by their large, mule-like ears and black tipped tails.

Other Wildlife

Small mammals and birds abound in the park. Frequently seen are chipmunks, ground squirrels, marmots, pikas, magpies, chickadees, and various jays. Fish, amphibians, and reptiles live in all areas of the park. No poisonous snakes reside in the park. In many of the park's lakes where non-native species of fish were introduced years ago are now being replaced with native greenback cutthroat trout by park scientists.

Ecosystems

Three distinct ecosystems are found in the park. They are defined by elevation, soil, climate, and land forms. Each ecosystem occupies a specific area of the park.



Montane: This ecosystem ranges from 7,600' to 9,000' above sea level. It combines open stands of ponderosa pine and juniper on sunny, south-facing slopes with Douglas fir on the cooler, shadier, north-facing slopes. Wide meadows, often with streams running through, have stands of aspen and willows. Abert's squirrels live in this life system. Mule deer, mountain bluebird, and western tanager frequent this sunny, semi-arid environment in summer.

Subalpine: Above the montane system is the subalpine system that ranges up to 11,000'. Aspen and lodgepole pine are succession trees in the subalpine, paving the way for the climax trees - subalpine fir, Englemann spruce, and limber pine. Douglas fir also grows in some parts of the subalpine area. Dark-eyed junco and ruby-crowened kinglet are the dominant birds. The red squirrel or chickaree is an important resident of the subalpine area.

Alpine tundra: Extremes of weather dominate this ecosystem that stretches above 11,000' to the tops of high mountain peaks. Wind, cold, and snow rule almost nine months of the year. At the boundary between subalpine and alpine tundra, trees crawl along the ground. These "krummholz" forests can be hundreds of years old and only a few feet high. White-tailed ptarmigan, pika, and bighorn sheep are year-round residents of this area.